

trajectory because under § 401.7, a suborbital trajectory is when the vacuum instantaneous impact point (IIP) of a vehicle's flight path does not leave the surface of the Earth. Starship's nominal IIP leaves the earth for a few seconds. Secondly, the near orbital trajectory is not an orbital trajectory because it does not lead to orbital insertion. Orbital insertion is defined in § 401.7 as the point at which a vehicle achieves a minimum 70-nautical mile perigee based on a computation that accounts for drag. In this case, the Starship Super Heavy does not achieve a 70-nautical mile perigee. Because Starship does not achieve orbital insertion, it conducts a suborbital reentry, which is different from a reentry from Earth orbit that involves a final health check prior to initiating deorbit. The near-orbital trajectory presents a unique circumstance as it relates to the application of the safety criteria outlined in § 450.101.

The FAA finds that granting SpaceX a waiver to § 450.101(a)(1)(i) with the following terms and conditions would not jeopardize public health and safety or safety of property:

- The risk to all members of the public, excluding persons in aircraft and neighboring operations personnel, must not exceed $1 \times 10^{-4} E_c$ for the phases of flight from the lift-off of the Super Heavy first stage to the initial SECO-1 of Starship.
- The risk to all members of the public, excluding persons in aircraft and neighboring operations personnel, must not exceed $1 \times 10^{-4} E_c$ for the phases of flight from the initial SECO-1 to final impact or landing.
- The risk to all members of the public, excluding persons in aircraft and neighboring operations personnel, must not exceed $2 \times 10^{-4} E_c$ for all phases of flight from lift-off through final impact or landing.
- The Starship mission profile utilizes a near-orbital trajectory where maximum perigee is less than positive 130 km and greater than negative 50 km, and the normal trajectory limits predicted debris impacts to broad ocean areas in the Indian Ocean.

ii. National Security and Foreign Policy Implications

The FAA has identified no national security or foreign policy implications associated with granting this waiver.

iii. Public Interest

On June 20, 2024, the FAA received a letter from the National Aeronautics and Space Administration (NASA) Human Landing System (HLS) program conveying the importance and criticality

of the Starship Super Heavy system and rapid iterations of flight test operations to NASA and its Artemis program. The Starship program, and these test flights, are essential to further the technology required to support the NASA Artemis program and key to returning U.S. Government astronauts to the moon, as reinforced by the letter from NASA. For these reasons, the FAA finds that granting this waiver will be in the public interest.

Endnotes

¹ § 401.7 states that “Orbital insertion means the point at which a vehicle achieves a minimum 70-nautical mile perigee based on a computation that accounts for drag.” Seventy nautical miles equals 130 km.

² The FAA notes that this is different from the FAA's definition of launch in 14 CFR 401.7, which encompasses certain pre- and post-flight activities when the launch occurs from a U.S. site.

³ This is because the loads on the Starship would exceed its structural limits.

⁴ § 401.7 states that “Hazardous debris means any object or substance capable of causing a casualty or loss of functionality to a critical asset. Hazardous debris includes inert debris and explosive debris such as an intact vehicle, vehicle fragments, any detached vehicle component whether intact or in fragments, payload, and any planned jettison bodies.”

⁵ The FAA introduced suborbital reentry in its experimental permit final rulemaking in 2007 and reaffirmed its position in the *Streamlined Launch and Reentry License Requirements* final rule (85 FR 79566, 79583 (2020)). The CSLAA describes suborbital rockets as reentering. See 51 U.S.C. 50905(b)(4) and 50906. Congress made clear that a suborbital rocket can “reenter” for purposes of licensing or permitting. It is not necessary to reach orbit to be in outer space. Although a suborbital rocket does not reach the velocity necessary to orbit the Earth, the vehicle can reach altitudes sufficient to be considered outer space.

James Hatt,

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Improvement of Publication of Helicopter Air Ambulance (HAA) Operations

AGENCY: Federal Aviation Administration (FAA), Department of Transportation.

ACTION: Notice of availability.

The Federal Aviation Administration (FAA) is announcing the availability of

Helicopter Air Ambulance Operations data. The Helicopter Air Ambulance Operations data has been posted in accordance with 49 U.S.C. 44731, as amended.

DATES: The most recently posted Helicopter Air Ambulance Operations data is for 2023. The FAA will continue to collect, analyze, and make available the HAA data in accordance with 49 U.S.C. 44731(d)(2).

ADDRESSES: How to obtain copies: A copy of this publication may be downloaded from: https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs200.

FOR FURTHER INFORMATION CONTACT: Nolan Crawford, 202-267-8166, Flight Standards Service, AFS-220, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591, 9-AFS-200-Correspondence@faa.gov.

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James Nolan Crawford,

Air Transportation Division, 135 Flight Operation Section, Aviation Safety Inspector.

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DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

[Docket No. FHWA-2019-0013]

Renewal Package From the State of Texas to the Surface Transportation Project Delivery Program and Proposed Second Renewed Memorandum of Understanding (MOU) Assigning Environmental Responsibilities to the State

AGENCY: Federal Highway Administration (FHWA), U.S. Department of Transportation (DOT).

ACTION: Notice of proposed MOU and request for comments.

SUMMARY: This notice announces that FHWA has received and reviewed a renewal package from the Texas Department of Transportation (TxDOT) requesting participation in the Surface Transportation Project Delivery Program (Program). This Program allows FHWA to assign, and States to assume, responsibilities under the National Environmental Policy Act (NEPA), and all or part of FHWA's responsibilities for environmental review, consultation, or other actions required under any Federal environmental law with respect to one or more Federal highway projects within the State. The FHWA has determined the renewal package to be